In re Application of: Ernest GRIMBERG
Serial No.: 10/574,462
Filed: March 31, 2006
Office Action Mailing Date: September 15, 2008

Examiner: Christine SUNG
Group Art Unit: 2884
Attorney Docket: 31363

In the Claims:

1–62. (Canceled)

63. (Currently Amended) An infrared sensor comprising:

a sensor array comprising multiple IR sensors, configured for collecting IR energy from an external scene; ~~and~~

a sensitivity adjuster associated with said sensor array, configured for adjusting between a field of view~~,~~ and a grouping of sensing pixels to derive a required image sensitivity, in accordance with a feedback signal; and

an image processor, configured for processing a sensor array output signal so as to form said feedback signal for said adjusting.

64. (Previously Presented) An IR sensor in accordance with claim 63, wherein said sensor array comprises an array of photon detectors.

65. (Previously Presented) An IR sensor in accordance with claim 63, wherein said sensor array comprises an infrared focal plane assembly (IRFPA).

66. (Currently Amended) An IR sensor in accordance with claim 63, wherein said sensitivity adjuster comprises a window selector configured for selecting a readout window within said array.

67. (Currently Amended) An IR sensor in accordance with claim 63, wherein said sensitivity adjuster comprises a grouping factor selector configured for selecting a pixel grouping factor during IR energy collection.

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68. (Currently Amended) An IR sensor in accordance with claim 63, further comprising a readout element configured for performing periodic sensor array readout with a readout time variable with a size of a selected readout window.

69. (Previously Presented) An IR sensor in accordance with claim 63, wherein said adjusting is in accordance with externally provided control information.

70. (Canceled)

71. (Currently Amended) An IR sensor in accordance with claim 6370, wherein said image processor further comprises an SNR detector configured for detecting an SNR of said image signal.

72. (Currently Amended) An IR sensor in accordance with claim 6370, wherein said image processor further comprises a contrast detector, configured for detecting a contrast level of said image signal.

73. (Currently Amended) An IR sensor in accordance with claim 6370, further comprising a mode selector configured for switching between a high-sensitivity operating mode and a low-sensitivity operating mode in accordance with said feedback signal.

74. (Currently Amended) An IR sensor in accordance with claim 66, further comprising a mode selector configured for switching between a small readout region and a large readout region, respectively to provide high-sensitivity and low-sensitivity imaging.

75. (Currently Amended) An IR sensor in accordance with claim 67, further comprising a mode selector configured for switching between a large pixel

grouping and a small pixel grouping, respectively to provide high-sensitivity and low-sensitivity imaging.

76. (Currently Amended) An IR sensor in accordance with claim 63, further comprising a video processor, configured for processing a sensor array output to form a video image.

77. (Currently Amended) A method for IR sensing, comprising:

performing a readout of a sensor array;

adjusting a pixel grouping of said ~~a~~ sensor array to provide a required image sensitivity in accordance with a feedback signal formed by processing said readout; and

collecting IR energy over a variable window from an external scene with said sensor array, in accordance with said pixel grouping.

78. (Previously Presented) A method in accordance with claim 77, further comprising selecting a sensor exposure time.

79. (Previously Presented) A method in accordance with claim 78, wherein said selecting is to maintain an average collected charge of said sensor at a specified level.

80. (Previously Presented) A method in accordance with claim 78, wherein said method is performed repetitively at a maximum rate permitted by said pixel grouping and said selected exposure time.

81. (Canceled)

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82. (Currently Amended) A method in accordance with claim 77~~81~~, wherein said feedback signal comprises at least one of: average image SNR, maximum image SNR, minimum image SNR, average image contrast, maximum image contrast, and minimum image contrast.

83. (Previously Presented) A method in accordance with claim 77, further comprising averaging respective sensor levels over multiple sensor array readout cycles.

84. (Previously Presented) A method in accordance with claim 77, further comprising switching between a high-sensitivity operating mode and a low-sensitivity operating mode.

85. (Previously Presented) A method in accordance with claim 77, further comprising analyzing a video IR image to identify specified properties of interest.